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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/985,920	11/06/2001	Nicholas V. Nechitailo	A8023	4569

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EXAMINER	
SUCHECKI, KRYSTYNA	
ART UNIT	**PAPER NUMBER**
2882	

DATE MAILED: 11/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/985,920	NECHITAILO, NICHOLAS V.	
	Examiner	Art Unit	
	Krystyna Suchecki	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-3,5-16 and 18-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-16 and 18-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claims 1, 14 and 27-28 are objected to because of the following informalities: Claims 1 and 14 should recite that "said volume of said buffer cell being immediately adjacent to said core element **is** configured to rotate" (emphasis added). Claim 27, line 5 should recite "a plurality of buffer cells" (i.e., remove "one"). Claim 28, line 10 should recite "at least one optical **fiber**" (emphasis added). Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 10, 12-14, 22, and 25-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Story (US 5,042,904).

4. Regarding Claims 1 and 14, Figure 3 of Story teaches a fiber optic cable (Column 3, lines 31-35) comprising:

a. A jacket (12) having an interior jacket surface and an exterior jacket surface;

b. A core element (10) centrally disposed within the jacket; and

c. A plurality of flexible partitions (14), wherein each flexible partition extends from said core element to said interior surface of said jacket at an angle that is skewed relative to a surface of said core element [jacket at an angle with respect to a radial line extending from said core element] (Particulars of Figure 3), and

d. Wherein said flexible partitions form a plurality of buffer cells, whereby immediately adjacent flexible partitions enclose a volume thereby forming one of the buffer cells (13),

e. Wherein a first buffer cell of the plurality of buffer cells contains at least one optic fiber, and a second buffer cell of the plurality of buffer cells contains at least one optical fiber (Column 3, lines 28-35) ; and

f. Wherein said volume of said buffer cell being immediately adjacent to said core element and configured to rotate in a predetermined direction when a radial crushing force is applied to the exterior jacket surface (Column 5, line 67- Column 6, line 4)

5. Regarding Claims 10 and 22, Story teaches at least one buffer tube (Column 3, lines 28-35) housed in at least one of said buffer cells.

6. Regarding Claims 12 and 25, Story teaches the partitions as color coded (Column 3, lines 46-56).

7. Regarding Claims 13 and 26, Story inherently teaches a cable wherein the skewed partitions deform without breaking or collapsing (Figure 3). Because the Story reference teaches the use of the same angled flexible partitions and buffer cells, it is inherent that the same angled, flexible partitions and buffer cells will have the same properties such as resistance to breaking and collapsing during deformation. (See *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980)).

8. Regarding Claim 27, Figure 3 of Story teaches a fiber optic cable comprising:

g. A jacket (12) having an interior jacket surface and an exterior jacket surface;

h. A core element (10) centrally disposed within the jacket; and

i. A plurality of flexible partitions (14) extending from said core element to said interior surface of said jacket thereby forming a plurality of buffer cells (13);

j. Wherein a first buffer cell of the plurality of buffer cells contains at least one optic fiber, and a second buffer cell of the plurality of buffer cells contains at least one optical fiber (Column 3, lines 28-35); and

k. Wherein said flexible partitions are configured to rotate in a predetermined direction when a radial crushing force is applied to the exterior jacket surface (Column 5, line 67- Column 6, line 4).

9. Regarding Claim 28, Figure 3 of Story teaches a fiber optic cable (Column 3, lines 31-35) comprising:

l. A jacket (12) having an interior jacket surface and an exterior jacket surface;

m. A core element (10) centrally disposed within the jacket; a plurality of partitions (14) extending from said core element to said interior surface of said jacket, said partition having an interior surface and an exterior surface skewed in a substantially parallel direction (Particulars of Figure 3),

n. Wherein a plurality of buffer cells (13) are formed by said partitions having opposing interior and exterior surfaces, wherein said opposite surfaces are skewed in the same direction; and wherein a first buffer cell of the plurality of buffer cells contains at least one optical fiber, and a second buffer cell of the plurality of buffer cells contains at least one optical fiber (Column 3, liens 28-35).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 2, 5, 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Story in view of Rutterman et al. (US 6,449,412).

12. Regarding Claims 2, 5, 15 and 18, Story teaches a partitioned fiber cable with crush compensation means in claims 1 and 14 above, but fails to explicitly teach a non-flat or arched ribbon housed in at least one of said buffer cells or a soft cushion housed in at least one of said buffer cells.

13. Rutterman teaches the use of a partitioned fiber cable (Column 4, lines 46-48) wherein non-flat fiber ribbons (Figures 1-4 and 6, items 10) are housed. Figure 6 shows non-flat, or arched, ribbons housed within buffer cells (items 92), and it is known in the art that partitioned fiber cables as mentioned in Rutterman would have a similar use of buffer cells. Buffer material is placed around the fiber ribbon and jacketed in a general place about the fiber ribbon, thus making a non-flat ribbon, for the purpose of inhibiting stress to the optical part of the ribbon (Column 1, lines 51-65 and Column 3). The buffer material, or soft cushion would also aid in stress alleviation of the fibers (Abstract).

14. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include non-flat or arched ribbons and a soft cushion within the buffer cells in the partitioned fiber cable of Story, as taught by Rutterman for the purpose of inhibiting stress to the optical part of the ribbon (Rutterman, Column 1, lines 51-65 and Column 3) and to alleviate stress on optical the fibers of the ribbon (Rutterman, Abstract)

15. Claims 3, 6-9, 11, 16, 19-21, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Story in view of Coleman (US 6,052,502).

16. Regarding Claims 3, 7-9, 11, 16, 18-21, 23 and 24, Story teaches the use of hybrid communications cable comprising any one of a variety of loose buffered or tight buffered optical fibers (Column 3, lines 31-35) in a cable system that has partitions operably configured to provide protection to fibers against crushing forces applied to the fibers (Particulars of Figure 3). Also taught is the use of water blocking materials to prevent the ingress of moisture and mechanical damage to the optical cable (Column 4, lines 55-63). Story also teaches the use of strength yarn within the cable, and further teaches that the yarn can be in alternative positions other than the central core of the cable (Column 4, 35-46).

17. Story does not teach the use of flat fiber ribbons, or water swellable tape. Story does not explicitly teach the use of strength yarn in a buffer cell of an optical fiber cable.

18. Coleman teaches the use of fiber ribbons in buffer tubes within the buffer cells of a partitioned cable. The ribbons are within buffer tubes and are surrounded by water blocking tape or strength yarn (Column 3, lines 7-49). Fiber ribbons are used to increase fiber count of the cable (Column 1, lines 4-49) and the water blocking material or strength yarn is used to provide

crush resistance and an ample tensile window to the cable (Column 1, line 53- Column 2, line 24).

19. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the flat fiber ribbons of Coleman to the buffer cells of Story in order to increase fiber count of the cable (Column 1, lines 4-49). The increase in fiber count would add an additional benefit to the cable of Story, the benefit being reduced interference and cross-talk between field service technicians on the party-line system of Story. The partition system of Story would naturally lend protection to the fiber ribbons against crushing forces applied to the fiber ribbons, since both the buffered fibers of Story and the buffered fiber bundles of Coleman can be in buffer cells (Story, Column 3, lines 31-35, and Coleman, Figures 5-6). The use of water blocking tape or strength yarn in the system of Story would also have been obvious to one of ordinary skill in the art at the time the invention was made since it would provide crush resistance and an ample tensile window to the cable (Coleman, Column 1, line 53- Column 2, line 24) and to prevent the ingress of moisture and mechanical damage to the optical cable (Story, Column 4, lines 55-63).

20. Regarding Claims, 6 and 19 Story teaches Claims 1 and 14 above, but fails to teach a ripcord housed in at least one of said buffer cells.

21. Coleman teaches a ripcord (19) disposed along an inner surface of a tape material (20), understood to mean the ripcord can be housed in at least one of said buffer cells of Coleman's slotted core cable (Column 3, lines 44-46). It is understood in the art to include a ripcord in a

cable for the purpose of allowing quick access to the contents of a cable without having to cut the cable along a lengthwise dimension.

22. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a ripcord within the buffer cell of Story as taught by Coleman for the purpose of allowing quick access to the contents of a cable without having to cut the cable along a lengthwise dimension. The use of the ripcord would additionally enhance Story's goal of avoiding unnecessary cutting of the cable and cable components (Column 3, lines 54-57 and Column 5, lines 13-15).

Response to Arguments

23. Applicant's arguments filed 10/30/03 have been fully considered but they are not persuasive. Regarding arguments directed towards claims 1, 10-14, 22 and 25-28, Column 3 of Story recites that one or more longitudinal cavities are used to establish a talk path, and that the talk path can consist of optical fibers. Story shows several cavities (13) in the figures, yet only uses one cavity for a talk path in the figures. That Story shows only one cavity in use does not negate or otherwise disqualify Story's statement that more than one cavity can be used for a talk path. System redundancy is very well known in the art, and one of ordinary skill, such as Story, would know to provide a back-up communication path, such as a second talk path, in a fiber optic cable.

24. Regarding arguments for the remaining dependent claims, neither Rutterman nor Coleman were relied upon to teach the buffer cells of Story. The rejections over Story have been upheld, therefore Applicant's arguments are not persuasive, and the 103 rejections over Rutterman and Coleman are upheld.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krystyna Suchecki whose telephone number is (703) 305-5424. The examiner can normally be reached on M-F 8-6, with alternating Fridays off.

26. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (703) 308-4858. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

27. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4900.

ks

David Bruce

DAVID V. BRUCE
PRIMARY EXAMINER